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EXAMINER	
DESIRE, GREGORY M	

ART UNIT	PAPER NUMBER
2624	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/785,213	MESSINA ET AL.	
	Examiner	Art Unit	
	Gregory M. Desire	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 January 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-40* is/are pending in the application.

4a) Of the above claim(s) *37-40* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,7-9,12-14 and 16-36* is/are rejected.

7)☒ Claim(s) *3-6,10,11 and 15* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *04 June 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *2/24/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Applicant's election of species I in the reply filed on 1/7/08 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

2. This application contains claims 37-40 drawn to an invention nonelected with traverse in the reply filed on 1/7/08. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

3. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 12-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

3. Claims 12-13 recites the limitation "said data signal" in lines 1. There is insufficient antecedent basis for this limitation in the claim. There is no mention of a data signal in claim 1.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-2, 13-14 and 16-36 are rejected under 35 U.S.C. 102(e) as being anticipated by Ishii (6,396,945). Regarding claims 1 and 21 Ishii discloses,

a) Providing an image signal containing a region of interest of the copy (note fig. 1. block 20, examiner interprets copying means provides an image signal containing Region of interest of the copy);

b) Transforming said image signal by a plurality of transform functions so as to obtain a plurality of conditioned image signals (note fig. 1, block 10 and 12 in connection with col. 4 lines 33-41, examiner interprets first processing performing expansion filter and third processing performing contraction filter as plurality of transform function obtaining plurality of conditioned image signals);

c) Extracting a plurality of residual defect signals using said plurality of conditioned

image signals to determine the presence of defects of interest (note fig. 1 input of block 14 is from the output of block 24 , block 25 and block 16 in connection with and col. 7 lines 16-31, examiner interprets out put from the auxiliary memory as extracted residual defect signals they use condition of image signals from the contraction and expansion filters, which is used to determine defects from the comparing and evaluation means) , wherein each residual defect signal of said plurality of residual defect signals output of block 24 and output of block 25 corresponds to a respective one of said plurality of conditioned image signals (block 25 corresponds to third processing means contraction filter and block 24 corresponds to first processing expansion filter); and

d) Performing a rule-based analysis on said plurality of residual defect signals (note col. 7 lines 36-52).

Regarding claim 2 Ishii discloses,

e) Providing a data signal containing said region of interest of a standard (note col. 7 lines 33-35); and

f) Extracting each residual defect signal of said plurality of residual defect signals using a corresponding one of said plurality of first conditioned images and said data signal (outputs from block 24 and 25 corresponds to first processing and third processing, respectively).

Regarding claim 13 Ishii discloses,

Wherein said data signal contains at least portion of a golden image (note col. 3 lines 64 and 4 lines 28-30 and fig. 1, block 7, examiner interprets golden image as ideal image, which in Ishii examiner interprets as the original input image).

Regarding claim 14 Ishii discloses,

Wherein the copy includes at least one defined structure, at least one absence of said at least one defined structure and at least one edge of said at least one defined structure and the defects of interest include defects within said at least one defined structure, defects within said at least one absence and defects on said at least one edge (note col. 7 lines 36-45).

Regarding claim 16 Ishii discloses,

Wherein said rule-based analysis includes the steps of determining the location of each one of the defects of interest relative to at least one structure of interest within said region of interest and reporting at least some of the defects of interest based upon their locations (note col. 7 lines 36-45).

Regarding claim 17 Ishii discloses,

Wherein said rule-based analysis includes the step of determining whether each of the defects of interest are present in more than one of said plurality of residual defect signals (note col. 7 lines 36-45).

Regarding claim 18 Ishii discloses,

Wherein said rule-based analysis includes the step of reporting only ones of the defects of interest present in more than one of said plurality of residual defect signals (note col. 7 lines 36-45).

Regarding claim 19 Ishii discloses,

Wherein said rule-based analysis includes the step of determining the location of each of the defects of interest relative to one of a defined structure, an absence of said defined structure and an edge of said defined structure (note col. 7 lines 36-45).

Regarding claim 20 Ishii discloses,

Wherein said rule-based analysis includes the steps of determining whether or not a defect of interest is exclusively within a defined structure, exclusively outside of said defined structure, or on an edge of said defined structure (note col. 7 lines 36-45).

Regarding claim 22 Ishii discloses,

Performing a rule-based analysis of said plurality of residual defect signals so as to report at least some of the defects of interest (note col. 7 lines 37-39).

Regarding claim 23 Ishii discloses,

Wherein said rule-based analysis includes the steps of determining the location of each one of the defects of interest relative to at least one structure of interest within said region of interest and reporting at least some of the defects of interest based upon their locations (note col. 7 lines 37-39)

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Regarding claim 24 Ishii discloses,

Wherein said rule-based analysis includes the step of determining whether each of the defects of interest is present in more than one of said plurality of residual defect signals (note col. 7 lines 46-60).

Regarding claim 25 Ishii discloses,

Wherein said rule-based analysis includes the step of reporting only ones of the defects of interest present in more than one of said plurality of residual defect signals (note col. 7 lines 35-54).

Regarding claim 26 Ishii discloses,

Wherein said rule-based analysis includes the step of determining the location of each of the defects of interest relative to one of a defined structure, an absence of said defined structure and an edge of said defined structure (note col. 11 lines 55-63 and col. 9 lines 6- col. 10 lines 2).

Regarding claim 27 Ishii discloses,

Wherein said rule-based analysis includes the steps of determining whether or not a defect of interest is exclusively within a defined structure, exclusively inside an absence of a defined structure or on an edge of a defined structure (note col. 11 lines 55-63 and col. 9 lines 6- col. 10 lines 2).

Regarding claim 28 Ishii discloses,

a) a first means for extracting a plurality of residual defect signals from a region of interest using the copy and the standard (note fig. 1, blocks 14, 15 and 16, fifth processing means, fourth means and comparing and evaluating means examiner interprets as the first mean); and

d) A second means for performing a rule-based analysis on said plurality of residual defect signals so as to report at least some of the defects of interest (note fig. 1, block 19, display means).

Regarding claims 29 Ishii discloses,

Wherein said first means includes a third means for transforming an image file containing a region of interest of the copy by a plurality of transforms to create a plurality of conditioned image files (note fig. 1, block 14, fifth processing inputs data that was transformed by image stored containing a region of interest of the copy by a plurality of transforms).

Regarding claim 30 Ishii discloses,

Wherein said first means includes a fourth means for transforming a data file containing said region of interest of the standard by said plurality of transforms to create a plurality of conditioned data files (fig. 1, block 17).

Regarding claim 31 Ishii discloses,

Aligning and subtracting corresponding respective ones of said plurality of conditioned image files and said plurality of data files (note col. 7 lines 22-26).

Regarding claim 32 Ishii discloses,

Wherein said second means includes a sixth means for determining the location of each one of the defects of interest relative to at least one structure of interest within said region of interest and reporting at least some of the defects of interest based upon their locations (note col. 6 lines 43-45).

Regarding claim 33 Ishii discloses,

Wherein said second means includes a seventh means for determining whether each of the defects of interest is present in more than one of said plurality of residual defect signals (note col. 7 lines 42-54).

Regarding claim 34 Ishii discloses,

Wherein said second means includes an eighth means for reporting only ones of the defects of interest present in more than one of said plurality of residual defect

signals (note col. 6 lines 43-45).

Regarding claim 35 Ishii discloses,

Wherein said second means includes a ninth means for determining the location of each of the defects of interest relative to one of a defined structure, an absence of said defined structure and an edge of said defined structure (note col. 11 lines 55-63 and col. 9 lines 6- col. 10 lines 2).

Regarding claim 36 Ishii discloses,

Wherein said ninth means further determines whether or not a defect of interest is exclusively within a defined structure, exclusively inside an absence of a defined structure or on an edge of a defined structure (note col. 11 lines 55-63 and col. 9 lines 6 - col. 10 lines 2).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 7-11 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Isii in views of Shishido et al (6,865,288).

Regarding claims 7 and 10,

Ishii provides an image signal containing regions of a copy. Ishii does not clearly disclose preconditioning said image signal prior to transformation. Shishido discloses preprocessing (note fig. 1, block 38 in connection with col. 8 lines 10-11). Ishii and Shishido are combinable because they are from the same field of endeavor. Therefore, it would have been obvious to one of ordinary skill in the art to include the preprocessing in the system of Ishii as evidenced by Shishido. The suggestion/motivation for doing so would have been improving the precision of an inspection system, while decreasing precision positioning failure (note col. 2 lines 5-10).

Regarding claim 8,

Ishii provides an image signal containing regions of a copy. Ishii does not clearly disclose applying geometric correction preconditioning said image signal prior to transformation. Shishido discloses preprocessing and displacement detection unit (in connection with col. 8 lines 10-15 and col. 14 lines 53-55). Ishii and Shishido are combinable because they are from the same field of endeavor. Therefore, it would have been obvious to one of ordinary skill in the art to include the preprocessing in the system of Ishii as evidenced by Shishido. The suggestion/motivation for doing so would have been improving the precision of an inspection system, while decreasing precision positioning failure (note col. 2 lines 5-10).

. A method according to claim 7, wherein the step of preconditioning said image signal includes applying geometric corrections to said image signal.

Regarding claim 9,

Ishii provides an image signal containing regions of a copy. Ishii does not clearly disclose applying photometric correction prior to transformation. Shishido discloses photometric correction (note fig. 1, block 38 in connection with col. 8 lines 10-11 and 35-38, photometric correction in specification is correction variants like illumination, examiner interprets dark level, shading correction as variants of illumination). Ishii and Shishido are combinable because they are from the same field of endeavor. Therefore, it would have been obvious to one of ordinary skill in the art to include the preprocessing in the system of Ishii as evidenced by Shishido. The suggestion/motivation for doing so would have been improving the precision of an inspection system, while decreasing precision positioning failure (note col. 2 lines 5-10).

Regarding claim 11 Ishii discloses,

Wherein the preconditioning said image signal includes becoming morphology (this is merely the study of the form of structure, examiner interprets the storing of image in a second or third memory blocks 8 and 9 maintain the form of the image).

5. Claim12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ishii in view of Gilat-Bernshtein et al.

Ishii provides an image signal. Ishii does not clearly image signal contains portion of a CAD file. Gilat-Bernshtein discloses image signal contain portion of CAD file (note fig. 1, block 130 in connection with col. 12 lines 32-39). Ishii and Gilat-Bernshtein are

combinable because they are from the same field of endeavor. Therefore, it would have been obvious to one of ordinary skill in the art to use a CAD file in the system of Ishii as evidenced by Gilat-Bernshtein. The suggestion/motivation for doing so would allow the analysis of system to operate more efficiently (note col. 12 lines 45-50).

Allowable Subject Matter

6. Claims 3-6, 10-11 and 15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The following is a statement of reasons for the indication of allowable subject matter: Regarding claim 3, the distinguishing feature is the further limiting of the extracting of defects, wherein the region of interest of a standard is transformed by plurality of transform function and extracting each residual defect signal from plurality of conditioned image signal. These features in combination with other features are not taught in the prior art. Claims 4-6 and 10-11 depend on claim 3. Therefore are also objected.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory M. Desire whose telephone number is (571) 272-7449. The examiner can normally be reached on M-F (6:30-3:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eileen Lillis can be reached on (571) 272-6928. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

G.D.
April 11, 2008

/Gregory M. Desire/
Acting Examiner of Art Unit 2600